

E. CALVA Torrey. This is a plant with filiform culms, and many-flowered spikelets, predominantly of calcareous areas of northeastern United States. It extends from Quebec and western New England to Virginia and Tennessee, west now to Minnesota where it is abundant; eastern North Dakota (Butte, *Lunell* 789); northeastern Nebraska (*Clements* 2552 from lowlands of Missouri River); northwest Iowa (*Hayden* 8247, Buena Vista Co.); Missouri (Jackson Co., *Bush* 58); and Oklahoma (Ottawa Co., *G. W. Stevens* 2431). All material to the west of this area appears to be the coarser *E. macrostachya*, which is frequently uniglumate.

E. SMALLII Britton. Extends southward to Delaware, West Virginia, and in the Cumberland Mountains to Tennessee (Norris Reservoir, *Hess & Penfound*, July 14, 1938; Dunlap, *Svenson* 10,113) and northern Alabama (Muscle Shoals, *T. F. Hall*, June 21, 1938). To the westward it enters Wisconsin (including *Fassett* 16,739 from Drummond); extends through much of northern Minnesota and reaches western Iowa and Missouri.

E. HALOPHILA This few-flowered uniglumate plant of the Atlantic seacoast extends from Hudson Bay to Virginia.

BROOKLYN BOTANIC GARDEN,
BROOKLYN, N. Y.

VERBASCUM PHLOMOIDES IN IOWA

W. A. ANDERSON

(Plate 1055)

Verbascum phlomoides L. is by far the commonest mullein around Iowa City. It has been here for at least thirty-five years, as shown by herbarium specimens, though published accounts are very recent (1) (2). In an attempt to account for the disparity between descriptions in current manuals (3) and the plant as seen in the field, the writer has been watching colonies of mullein for the past three seasons and has come to the following conclusions:—

The mature form of *Verbascum phlomoides* is a gigantic weed, 1.5 to 2 m. high, shooting from a large winter rosette into flower-

ing condition by about the first of July. The rosette leaves all disappear and stem leaves remaining are all more or less decurrent by long ruffled auricles which clothe the stem from the ground to the inflorescence. These leaves are progressively more acuminate from ground to the inflorescence. The inflorescence consists of a central spike or spike-like raceme with several smaller lateral racemes from the axils of upper leaves. This plant is *V. thapsiforme* in the sense of Hegi (4) not of Murbeck (5).

If the plant is cut early in the summer or even after it has flowered, it sends up one to several sprouts which may be a meter high or less, with a single slender interrupted raceme and sessile or petioled leaves. This is *Verbascum phlomoides* of Hegi 6: 1 p. 14 fig. 5 and other manuals. It makes a good herbarium specimen and is the form best represented in our collection (see Sherff, l. c.). This form is most common in August and September.

The winter rosette forms in late summer. It consists of leaves up to 0.5 m. long and 2 dm. wide with short petioles which are hidden at the base of the rosette. These rosettes may be distinguished from those of *V. Thapsus* by the acute tips and crenate margins of the leaves, as well as the silvery rather than yellowish pubescence.

Murbeck maintains *V. thapsiforme* as a separate species, although he states that it is closely related to *V. phlomoides*.

The accompanying photograph (plate 1055) of *V. phlomoides*, *V. Thapsus* and some *Erigeron canadensis* was taken on the bank of the Iowa River, July 26, 1945. *V. phlomoides* is very ornamental, but in our locality is a more aggressive weed than *V. Thapsus*.

1. Miller, R. C. Proc. Iowa Acad. Sci. **51**: 235 (vol. for 1944) 1946.
2. Anderson, W. A. Proc. Iowa Acad. Sci. **52**: 91 (vol. for 1945) 1946.
3. Sherff, E. E. RHODORA **48**: 97 (1946).
4. Hegi, G. Illustrierte Flora von Mittel-Europa **6**: 1 p. 15 also tab. 234, fig. 3.
5. Murbeck, S. V. Monographie der Gattung *Verbascum*, Lunds Univ. Arssk. **29**: 2, 1933-1944. (Esp. pp. 25, 44, 46-48, 51-60, 85-90).

THE STATE UNIVERSITY OF IOWA
IOWA CITY, IOWA